



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/815,982	03/22/2001	Frank R. Miele	VWAVE.001CP2	7628

27299 7590 12/13/2005

GAZDZINSKI & ASSOCIATES
11440 WEST BERNARDO COURT, SUITE 375
SAN DIEGO, CA 92127

EXAMINER

JUNG, WILLIAM C

ART UNIT	PAPER NUMBER
----------	--------------

3737

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/815,982

Applicant(s)

MIELE ET AL.

Examiner

William Jung

Art Unit

3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-14, 19-24, 36, 38 and 41-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-14, 19-24, 36, 38 and 41-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-8, 10-14, 19-24, 36, 38, and 41-58 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 6-8, 10-14, 19-24, 36, 38, 41-54, and 56-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Voss et al* (US 6,228,034 B1) in view of *Conero et al* (US 6,676,600 B1).

Voss et al substantially disclose all claimed features in claims 1, 6-8, 10-14, 19-24, 36, 38, 41-54, and 56-58.

Claims 1, 8, 36, 45, 46, 49, 51, 53, 56, and 58: Voss et al disclose a method and apparatus of positioning a blood pressure sensor including locating a blood vessel disposed within a surrounding tissue with transmitting ultrasound energy into the tissue including the blood vessel, evaluating reflections of the ultrasound energy from the tissue and the blood vessel, identifying at least one region of ultrasound reflection within the tissue to distinguish blood vessel from the surrounding tissue, locating the local minimum by minimizing edge detection to detect the blood vessel, and positioning the blood pressure sensor based on the location emanating from the steps above (col. 2, line 48 – col. 3, line 11; col. 3, lines 36-57; col. 5, line 34

Art Unit: 3737

– col. 6, line 32). However, Voss et al do not specifically disclose that the Doppler method is achieved via acoustical or ultrasonically. Conero et al teach that the pressure sensor location is aided by ultrasound detection of blood vessel where the location and depth of the blood vessel is evaluated. The evaluation of the blood vessel location is inherently done so by minimum or maximum thresholding of the ultrasound images to distinguish the blood vessel from the surrounding tissue (col. 7, lines 16-59). Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to apply Conero et al's teaching of using ultrasound to locate the blood vessel to Voss et al's method and apparatus as an alternative to achieve the claimed invention.

Claim 7: In addition, Voss et al disclose of motor that provides desired compression on tissue surrounding the blood vessel ((col. 5, lines 42-49).

Claim 19: Furthermore, Voss et al disclose a lever arm 36 and pin 46, which control the translation and rotational movement of the housing 50 where the housing includes the blood pressure sensor and ultrasound transducer (col. 6, lines 38-49).

Claim 38: Voss et al disclose in figure 9 where the control of the ultrasound transducer and blood pressure sensor is coupled to central processor 160, i.e. CPU, computer etc.

Claims 6, 10-14, 41-44, 47, 48, 50, 52, 54, and 57: However, Voss et al do not explicitly state measuring depths, normalizing power function, analyzing the blood vessel as function of lumen position, envelop, modulation or applanation. However, Voss et al's evaluation of blood vessel location inherently achieves all of the above since the compression control and the minimum and maximum pressure normalization to detect the vessel or artery walls is equivalent to above characteristics (col. 7, line 46 – col. 8, line 4).

Claims 20-24: Similarly, Voss et al disclose an analyzer to correct the motion artifact during the cardiac cycle by adjusting the power or amplitude level. The analyzer effectively corrects the Doppler shift in blood vessel location analysis , although Voss et al do not specifically states the Doppler shift correction.

4. Claims 2-5 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Voss et al* and *Conero et al* as applied to claim 1 above, and further in view of *Eckerle* (US 5,289,823). Voss et al and Conero et al substantially disclose all claimed features in claims 2-5 and 55 as described above. However, Voss et al do not specifically disclose that the blood pressure sensor comprises a tonometric sensor. Eckerle teaches that the blood pressure can be monitored non-invasively via tonometric sensor. Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to apply Eckerle's teaching of using tonometric sensor to monitor blood pressure to Voss et al and Conero et al's method and apparatus as an alternative to achieve the claimed invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William Jung, Ph.D. whose telephone number is 571-272-4739. The examiner can normally be reached on Mon-Fri 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3737

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WCS
December 8, 2005


BRIAN L. CASLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700